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SUBTERRANEA BRITANNICA - 10 SEPTEMBER 1985 - NEWSLETTER 5

FROM THE CHAIRMAN & THE SECRETARY

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DEAR MEMBERS

CAMBRIDGE CONFERENCE

Details for the next Cambridge Conference - 19 October are enclosed.

SAFETY

The unhappy case of Ramanus Girenas, who died as a well collapsed on him at Ventnor, Isle of Wight, reminds us of our responsibilities for our own and others' safety underground. So, too, did our encounter (the first for many if not all of us) with 'bad air' in an ironstone mine at Ironbridge during this summer's study weekend; candles, on the floor at least, simply would not stay alight! Even in Surrey, motorway contractors measured an alarmingly low oxygen content in one small Upper Greensand working, and obviously anything in or near the Coal Measures or anywhere where there may be an accumulation of oxygen-depleting or methane-generating organic matter should be treated with great respect. The Abbeystead methane explosion was quite unexpected! (The Health & Safety Executive's report on that incident was published this summer.)

Just how cautious one should be in unsupported ground was underlined by the sad case, in 1967, of a young archaeologist, Alan Jones, who died in hospital after being trapped by a fall of earth in an open trench at Addington, near Croydon. He and 15 other members of a Bromley archaeological group were working in the trench when it subsided.

Members are advised to remember and follow all the safety

rules - and, especially, to approach any new or unfamiliar underground structures with all the caution and respect they deserve. And not to forget, either, that familiarity can breed contempt.

INSURANCE (3RD PARTY)

One of the benefits of SB membership is automatic inclusion in the insurance scheme operated by the British Cave Research Association.

This provides THIRD PARTY cover (only) for damage to property and injury to persons caused by any member (including injury to another Society member or damage to his or her property) up to an amount of five hundred thousand pounds for any one accident.

The activities covered under the policy can be summarised as ...

(1) Sporting caving, cave exploration, and scientific research (in the widest sense);

(2) The entry to, and scientific exploration of disused (BUT NOT WORKING) mines or quarries;

(3) Crossing public or private property to gain access to such sites.

The cover negotiated contains a minimum of exclusions, the only one which could possibly give cause for concern is the exclusion of the use of explosives unless previously notified to the insurers.

It is important to note that, should any accident occur which involves injury to others or damage to property, brief details should be sent IMMEDIATELY to Malcolm Tadd, our Secretary, who will arrange for the BCRA Manager to be advised. People are becoming more claims conscious, and even a trivial incident could result in a later claim for damages; it is wise, therefore, to ensure that correct notification procedures are followed.

If any member requires a sight of the policy, we do hold a copy and Malcolm Tadd will be pleased to forward a copy for your perusal.

PERSONS SUFFOCATED IN A WELL

The following is extracted from the Monthly Magazine 34, p. 466 (1812):

> We insert the following catastrophe at length, as a warning to those who are unacquainted with the manner of preventing the effects of noxious airs. It will be the

means of making more generally known, [illegible] importance of the discoveries of the late Mr. Cavendish ...

On the 11th of October, Robert Armstrong, a joiner, residing at a public house at Martin, in Cleveland, asked a companion to let him down by the bucket into the well, about sixty feet deep, but only two in water, to bring up two wooden dishes which had been in the well nearly five months. He had not been lowered more than thirty feet, before he fell out of the bucket into the well; his companion continued to lower the bucket, and called to him, but received no answer. An alarm was given, when James Ingledew, of Martin, blacksmith, was lowered down in the bucket, without being tied to the rope, which he refused to have done, in order to save his companion Armstrong. He was scarcely lowered twenty feet before he fell in like manner. A ladder was then procured, and Joseph Tennison, of Martin, a labourer, was immediately, at his own request, lowered by the ladder into the well, to endeavour to save the other two; when he had been lowered a few yards, he was observed to fall on the side of the ladder, senseless.

It now occurred to the bye-standers, that the cause of these disasters arose from foul air in the well, when a fourth man, William Hardwick, of Martin, labourer, went down on the ladder, with a rope tied round him. Hardwick had not gone down more than twelve feet, before he likewise became senseless and fell, when he was immediately hauled up, and was black in the face, apparently dead, but soon after recovered.

Every effort was now used by a number of men with grapple irons, but without effect, to bring up the three bodies. A well-sinker was then sent for, who endeavoured to take out the foul air with which the well was filled, but in vain. An improvement was then suggested and made in the grappling irons, when, after much difficulty, the three bodies were brought up. A surgeon examined them, and found them to have been dead for some hours. A Coroner's verdict was, "accidental death by suffocation in the well from the foul air." Ingledew had left a widow and five children. To this melancholy narrative, it may be proper to add, that no person should venture down a well of any depth before he tries whether a candle will burn down to the water. If a candle will burn, he may go down with safety; if not, it is certain death. The foul air, the carbonic acid gas of chemistry, is heavier than atmospheric air, and always sinks to the bottom. It may be drawn out of the well by a bucket, in the same manner as water

IRONBRIDGE STUDY WEEKEND

First and foremost, apologies to those either temporarily or permanently (so far as the programme was concerned) lost on the Sunday afternoon. What should have been a very pleasant

Shropshire afternoon was hardly improved by having no idea where minibus, personal belonings, cash, and so forth had got to. Those of us in the minibus had convinced ourselves, quite erroneously as it turned out, that (a) the 'village pub' was 'just round the corner', and that 'b' all were on there way to it just in time for some sort of lunch. In fact it was quite a few corners, and the rest of the party was grossly inconvenienced making a fruitless search of Bridgnorth. It was sheer good fortune that the deserted minibus passengers, with our hosts' help, were reunited with the bus before emergency strategies were required. Your Committee is determined such a thing will never happen again.

Secondly, our very grateful thanks to the Shropshire Caving & Mining Club members who gave up more than just the weekend to assist with planning the programme and leading the visits. At one stage, in the absence of member volunteers, it looked as though there would be no study weekend this year. The sites visited were, it is hoped, a good variety, with Hawkestone the highlight for some, Snailbeach for others.

Special thanks to Maureen Mahony and other Nottingham members for hiring and driving the minibus; and to Barbara and Malcolm Tadd for so much work on the administration. Bottom marks and standing in the corner in disgrace for the Chairman, who should have taken action after the first few hundred yards in the minibus that Sunday afternoon to prevent the (let us hope henceforth no longer traditional) fragmentation of the party.

LONDON UNDER LONDON

Possibly inspired by 'Le Paris sous Paris', this is something of a 'coffee-table' volume. Well-illustrated but written in a rather irritating journalistic style, it covers much familiar ground but is disappointingly short on new material. Chapters deal with wartime shelters and shelter life; streams and sewers; utilities; railway tunnels; cable tunnels; government tunnels and bunkers; and 'oddities.' There is a brief guide to which underground sites can be visited, and to whom applications for permission should be sent. There is no real attempt to provide a guide to further reading.

> Richard Trench & Ellis Hillman. London under London. A subterranean guide. London: John Murray, 224 pp, 1985. ISBN 0 7195 4080 1. Fourteen pounds 95p.

THE SEWER NOW EXCAVATING IN HYDE PARK

Can any member throw any light on this interesting excavtion, described as follows in Monthly Magazine 34, p. 360, 1812:

> The sewer now excavating in Hyde Park is one of the greatest works of the kind ever attempted in this country. It is intended for a drain to the numerous streets now

> built in the neighbourhood of Paddington, and will empty itself into the great sewer which enters the Thames at Milbank. In consequence of the height of the ground in Hyde Park, it became necessary, in order to insure a sufficient fall to this new sewer, to dig to a very great depth; and its formation is carried on by the laborious and expensive process of tunnelling. Pits are sunk at the distance of every seventy yards, and the excavations are conducted in a way similar to those of a coal-mine. The stratum of clay through which the sewer passes is favourable to the process of excavation, and is similar to that which was thrown up in the formation of Highgate archway, which so suddenly failed on nearly arriving at completion. The gravel pits in Hyde Park are filling up with the clay dug from the tunnel.

A most interesting example of early deep level tunnelling in London Clay long before the railways came, although of course post-dating many canal tunnels.

MoD DIGS DEEP FOR BUNKER

A new bunker control centre code-named Pindar is being built under the Ministry of Defence building in Whitehall six storeys deep ... and will replace the Cabinet Office control centre and the central military control room. It appears there may also be a 'back-up control centre' built in deep-level tunnels under Chancery Lane underground station, and that there may be plans to allow the Americans to construct a third such 'bunker' under Goodge Street station!

> The Times, 26 July 1985; the Guardian, 25 July 1985; the New Statesman.

SNOW HILL TUNNEL TO REOPEN ...

Snow Hill Tunnel is to be reopened. The 300 metre stretch of derelict tunnel runs between Holborn Viaduct and Faringdon Street, and will make direct journeys from Bedford to Sevenoaks, and Luton to Croydon possible.

The tunnel was opened in 1866, although passenger trains have not used it regularly since 1916 and freight services through it were withdrawn in the late 1960s.

Reinstatement of passenger services could be just what SB Committee members need to assist those living north and south of London to get together!

> David Traherne. Snow Hill Tunnel to reopen - Holborn Viaduct Stn may close. City Recorder 244 (July 4 - 17, 1985), p. 1.

AND THE OTHER SNOW HILL TUNNEL TO REOPEN

The 596 yd Snow Hill tunnel at Birmingham, disused for 10 years, is also being cleared ready to be brought back into use. And we understand there has been a celebratory banquet in it - memories of the Thames Tunnel?

Railway Magazine 131(1012), p. 381, 1985.

RISING WATER LEVELS LAP AT CITY FOUNDATIONS

Industry's declining water demand is setting a time bomb under many of Britain's industrial cities. Rising groundwater has already burst through foundations and tunnels in Birmingham and Liverpool and is putting subsoil structures in London at risk.

The water table under the capital has been rising at 1m/year since the early 1970s and there is now widespread concern that many deep urban foundations, tunnels and basements face the dangers of flooding ...

Department of Environment engineers are said to be extremely worried at the threat as Government has some of the deepest buildings in London ...

Problems in Birmingham are more serious than in London. British Telecom tunnels and a telephone exchange basement in the city centre are already suffering serious water ingress ...

Groundwater levels have been rising ... the result of factory closures, changing manufacturing processes which need less water and industrial relocation out of the city ...

In Liverpool, British Rail has just commissioned new pumping equipment in the suburban rail system tunnel which runs under the river Mersey ...

In central London, the water table is now at about 60m below ordnance datum and continues to rise at 1m/year. Among the deepest structures in the city are London Underground's tunnels, some of which drop to 35m below sea level ...

New Civil Engineer, 11 July 1985, p. 4.

SECRET TUNNEL AT SUTTON

Use finishes this week of a novel means of concrete placement beneath Sutton waterworks in Surrey where an abandoned pumping adit and its shafts have had to be filled. The adit was cut through the chalk substratum in the 1880s at a depth of 10 m and pick axe marks and candle niches in the walls now

bear witness to the tunnelling techniques of the day. The redundant 244 m long adit has been filled with lean mix but because access was so difficult Blastmixer International of Huddersfield was called in to place the materials. It blasted the lean mix pneumatically into very inaccessible points using a high air volume pump operating at a low pressure. Blastmixer's two man team placed and compacted the 600 t of fill in a week.

from New Civil Engineer, 11 July 1985, p. 6.

MINING IN THE ELLAND FLAGS: A FORGOTTEN YORKSHIRE INDUSTRY

This is an unusual title in the British Geological Survey's 'Reports' series. The summary reads as follows:

> Mining in the Elland Flags was widespread in the Bradford - Halifax area in the later years of the nineteenth century and the early years of the twentieth century. Mine workings are a threat to ground stability and cases where surface developments since 1960 have been affected by their existence are described. Appendices list the known mines, and give details of the whereabouts of surviving mine plans.

The Elland Flags sandstones were worked underground for building stone and for 'stone slates' for roofing. The booklet contains sections on the history and economics of the mines, the life-spans of individual mines, working conditions and methods, and present-day problems resulting from the mining. It is illustrated, and there are appendices listing known mines, with their dates.

> British Geological Survey Report 16(4): 18pp, 1984. ISBN 0 11 884355 9. Three pounds 25p.

BURTERSETT QUARRIES. A WENSLEYDALE MINING COMMUNITY

Another booklet to remind us that subterranean stone quarrying was certainly not confined to southern England. David Hall's booklet tells us that:

> The village of Burtersett has a history and character unique in the dales, because of the stone quarries which were worked near it for seventy years centred on 1895. There is a long tradition of quarrying in Upper Wensleydale, for local needs, but a major industry sprang up in the 1870s, peaked about 1890, and declined thereafter with minor recoveries until it finally ceased in 1931. The quarries were not open to the surface as is usual, but tunnelled into the hills in wide levels, so that only a few waste heaps and remains of buildings and entrances are to be seen on pastures.
>
> Prior to 1860 Burtersett was in no way exceptional ...

The booklet includes illustrations of tools used, sketch location maps (Burtersett's quarries are to the east and south of Hawes), and some details of quarrymen's houses. It is available at one pound 25p from the Yorkshire Dales Railway Bookshop, Embsay Station, Nr. Skipton, Yorks.

> David Hall. Burtersett Quarries. A Wensleydale Mining Community. Published by the Author, 1985. 18pp.

CROWHILL ROAD SANDSTONE MINES, BISHOPBRIGGS, GLASGOW

And north of the border:

> In March 1980, information concerning Huntershill Quarry in Bishopbriggs came into the possession of Strathclyde Regional Council. This ... indicated that in the past Bishopbriggs sandstone had not only been quarried but had also been extracted by the 'stoop and room' system of mining, and that the sandstone mineworkings extended from the quarry, in an easterly direction, undermining Crowhill Road. ...

The workings were investigated and filled. They were found to be flooded, and 'when the roof was punctured the water rose, on average, 6 m up the borehole.'

> James Gibson. Crowhill Road, Bishopbriggs: consolidation of old sandstone workings. Civil Engineering Technology, February 1985, pp. 4 - 10.

HAMPTON TO OPEN SCOTTISH COAL MINE

An item in the Guardian (27 June 1985) informs us that:

> Hampton Gold Mining Areas, Britain's biggest private sector deep mining company, yesterday unveiled plans to open its fifth British coal mine to create up to 40 new jobs in Scotland, and called for government action to allow the private companies to extend their activities.
>
> The new pit will be in the Edinburgh area, close to Hampton's existing Blinkbonny and Policies pits, and should come onstream later this year. ...
>
> Hampton claims to be the largest of the 130 operators who hold licenses to mine coal underground in the U.K. It has two pits in Nottinghamshire, in addition to the Scottish pits, and would expand its activities if the government changed the rule which prevents private operators employing more than 30 workers underground.

Details of all U.K. coal mines, operated by the National Coal Board or by private operators, may be found in the Directory of Mines and Quarries (1984) featured elsewhere in this

Newsletter.

Andrew Cornelius. Hampton to open Scottish coal mine, Guardian, 27 June 1985.

MURDOCH'S CAVE AT BELLO MILL

The Auchinleck Boswell Society report in connection with William Murdoch (1754 - 1839), the pioneer of gas lighting, that a section in their museum in the old church at Auchinleck (Ayrshire) (Boswell's mausoleum, below it, can also be visited) is now devoted to him. And that plans have been put to the Cumnock & Doon Valley District Council for a 'walk-about at Bello Mill',' with improved visitor access for the cave where Murdoch conducted some of his early experiments with gas making and use. And, good news, BR have reopened the station at Auchinleck.

DIRECTORY OF MINES AND QUARRIES

The latest national list of active UK mineral workings was published in November 1984. Listed together by products and counties, openworks and mines are named with their grid references, owners, and notes of the geological formations worked. Mines are surprisingly numerous - for example, four active ball clay mines are listed for Devon, with another five in Dorset. There are two gold mines in Gwynedd, two limestone mines in Wiltshire, and one limestone mine in each of Fife and Lothian. Salt mines continue in operation in Cheshire (Meadowbank mine at Winsford), and a potash mine in Cleveland. And the Loch Aline silica sand mine still operates in Morvern, Highland.

P M Harris, D E Highley & D M Taskis. Directory of Mines and Quarries. British Geological Survey, 1984. Unpaginated ([viii + 102pp]), ISBN 0 85272 082 3, Twentyone pounds 50p.

CHANNEL TUNNEL

Talk about digging your own grave. When asked why the Government has suddenly started pressing for the Channel Tunnel after countless years, the Transport Secretary, Nicholas Ridley, told guests in a TV hospitality suite the other day: "Because she is looking for monuments."

The Times, 'Diary', 20 June 1985

CRAWSTONE IRONSTONE MINE, IRONBRIDGE

Members who visited the mine in the Crawstone ironstone seam during the study weekend would be interested to read the paragraphs devoted to this working in one of the Shropshire

Caving and Mining Club's publications:

> Although only two of the eleven ironstone seams which have been worked in the Coalbrookdale Coalfield are present in the Severn Gorge the ironstone mining industry has been of paramount importance to its development. ...
>
> One adit ... proved ... to be a Crawstone Ironstone working of similar date to the Commissioner's Report [Child Employment Commission, 1842.]
>
> ... [the] main haulageway has sections of L shaped rail still in place and is about 1.5 m high for some 200 m. After about 50m the two ends of the circular longwall face can be seen, one on each side of the main tunnel ...
>
> The face is fairly clean with little fallen material despite its 130 years or so of standing. It is about one metre high, the 0.6 m seam of brownish ironstone being at about mid-position. On the floor is a thin seam of coal, which was obviously worked ...
>
> The mine obviously used the traditional longwall, tub-stall method of working and as the face advanced radially so new branches were formed thus minimising the stall lengths for ease of transport. ...
>
> The mine has been revisited several times since but on nearly every occasion a miners' safety lamp has been extinguished in the entrance, the oxygen present being insufficient even to support a flame. On the occasions when it has been possible to enter the mine it has been found necessary to 'rush' accumulations of blackdamp in the dips in the hope that there is either a life supporting quality of air on the rise side or that one has sufficient breath left to return. It has been found that wet weather conditions, with a barometer reading less than about 0.76 m, make it impossible to enter the workings safely. Similarly with low atmospheric pressure methanometer readings have indicated the presence of methane gas at the face. ...

Members are referred to the full document for further details of this and other Ironbridge Gorge mine workings:

> Ivor J. Brown, Mines and mineral workings in the Coalbrookdale Coalfield, Shropshire. Three essays. Shropshire Caving and Mining Club, Account No. 11: A1-A11, B1-B30 and C1-C7, 1979.

INDUSTRIAL HERITAGE. INDUSTRY - TRANSPORT - PEOPLE

The periodical Industrial Heritage often contains items of subterranean interest. The summer 1985 issue, for example,

carries some photographs taken during the driving of the new canal tunnel branch into the Dudley limestone mines.

In the 'News Round-up' section we read that the Leek Tunnel, 130 yards long and opened in 1801, was reopened in April this year after the completion of repairs; the Leek branch is part of the Caldon Canal. The Welsh Mining Society are compiling a bibliography of Welsh mining books; the museum at Okehampton, Devon, now has an enhanced mining section devoted to tin, copper, and iron; and a 'mining community heritage project' is being considered for the Lewis Merthyr Pit which closed in 1983 - there would be a 'simulated mine' and the history of the community would be portrayed, including a mining village.

Industrial Heritage is published by the Yorkshire Dales Railway Museum Trust, Embsay Station, SKIPTON, North Yorkshire BD23 6AX.

UNDERGROUND GEAR?

During the Study Weekend a member asked that the Newsletter should carry some details of suppliers of helmets, lamps, ladders and similar caving tackle required for underground exploration. Such a list appeared in the recent issue of the Cavers' magazine Descent and is reproduced here in the hope that it may be helpful:

BRENTWOOD - Field and Trek (Equipment) Ltd., 25 Kings Road, BRENTWOOD, Essex CM14 4ER. Camping, backpacking, mountaineering, canoeing, caving - send one pound 25p for 112 pp illustrated catalogue.

BRISTOL - Quip-U for Leisure Ltd., 60 West St., Oldmarket, BRISTOL. Caving, climbing ... etc.

BUXTON - Caving Supplies Ltd., 19 London Rd., BUXTON, Derbyshire. Specialise in caving equipment - catalogue available.

CLEVELAND - Wilderness Ways Ltd., 9 Colliergate, YORK YO1 2BP; also at 17 Eastgate, LEEDS LS2 7LY.

DERBY - Derby Mountain Centre Ltd., 85/87 King St., DERBY DE1 3EE.

HERTFORDSHIRE - Culverhouse, 99 The Parade, WATFORD, Herts.

INGLETON - Inglesport, The Square, INGLETON via CARNFORTH.

POWYS - Crickhowell Adventure Gear, 18 High Street, CRICKHOWELL, Powys NP8 1BH.

SOMERSET - Bat Products, 8 Tucker St., WELLS, Somerset BA5 2DZ.

YORKSHIRE - Whernside Caving Shop, Whernside Cave & Fell Centre, Dent, SEDBERGH, Cumbria.

YORKSHIRE - Lyon Equipment, Rise Hill Mill, Dent, SEDBERGH, Cumbria.

BEER QUARRY CAVES

The subterranean quarries at Beer are now fully operational as a tourist attraction (since April 1984). Details from Beer Quarry Caves Ltd., 8 Clinton Rise, Beer, SEATON, Devon EX12 3DZ. Phone Seaton 20986. The 'caves' themselves are in Quarry Lane, Beer.

ADVANCES IN GEOTECTURAL DESIGN: THE SECOND INTERNATIONAL EARTH-SHELTERED BUILDINGS CONFERENCE.

Details have been received of this conference to be held at Minneapolis, Minnesota, U.S.A., 16 - 19 June 1986. 'Potential topics' include cave dwellings, earth-sheltered housing, large scale use of mined or tunnelled facilities. 'The focus of the conference will be on documentation of the advances in the design, analysis, and construction of earth-sheltered buildings throughout the world ...'

For details, contact:

The Martin Centre for Architectural and Urban Studies, University of Cambridge Department of Architecture, 6 Chaucer Road, CAMBRIDGE CB2 2EB.

GEOLOGY AND MINING: THE SCIENCE OF TECHNOLOGY

This one-day seminar (Monday 11 November 1985) 'explores the relationship between geology and the discovery and development of coal and metalliferous ores and their mining, from the commencement of the Industrial Revolution into the period of state patronage.' The course director will be Dr. Hugh Torrens, and the seminar will be held at the Ironbridge Gorge Museum. The programme includes Hugh Torrens on 'The development of coal and mineral prospecting 1650 - 1850'; Roy Porter on 'The Industrial Revolution and the rise of the science of geology 1750 - 1830'; Trevor Ford on 'Concepts of the principles of geology in early Derbyshire lead mining'; Jim Secord on 'State patronage for geology in Britain 1830 - 1900'; and David Bick on 'Geological publications as a source for the mining historian.'

Fee: fifteen pounds. Further details from: Janet Markland, Institute of Industrial Archaeology, Ironbridge Gorge Museum, Ironbridge, TELFORD, Shropshire TF8 7AW.